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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/644,752	08/23/2000	Victor Andrew Riley	H16-25959(256.053US1)	1500

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EXAMINER
PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/644,752	RILEY, VICTOR ANDREW	
	Examiner	Art Unit	
	Brian T. Pendleton	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *12-34* is/are allowed.

6)☒ Claim(s) *1,4,5 and 7-11* is/are rejected.

7)☒ Claim(s) *2,3 and 6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12/17/02 have been fully considered but they are not persuasive. Applicant argues that Bellman, Jr. et al do not disclose an audio output that indicates operation of an aircraft component, where the aircraft component is a sound source. Examiner is not convinced of that argument for the following reasons: the plurality of microphones 230 of Bellman, Jr. et al are disposed next to the airframe, thereby picking up audio signals indicative of the operation of the airframe. The airframe, which is a sound source, is a specific aircraft component. The sound source is usually noise, which is cancelled by the control unit 400, which uses a mixer to accomplish that.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 7, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bellman, Jr. et al. Bellman discloses an apparatus comprising sensors 200 which have a plurality of microphones 230 which receive audio input, a mixer and headphone 485. As taught in column 7 lines 44-52, one of the microphones can be a reference microphone to pick up noise which is subtracted from the other microphone, therefore the apparatus has a mixer (see also column 9 line 66 – column 10 line 6).

Claims 1, 5 and 11 are met. As to claim 4, there is disclosed a speaker 437. Regarding claim 7, there is disclosed an audio processor 435. Per claim 8, the sensors are placed on the airframe.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 5, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanis. Tanis discloses an aircraft altitude approach control device comprising microphone 2, mounted on the wing of the aircraft, aircraft audio amplifier 34 and headphones 36. Audio input from the aircraft component is received at the microphone 2 and provided to the headphone 36 so that the user can receive an audible indication of the altitude of the aircraft. The operation of the wing is characterized by that audible indication. Therefore, it was well known in the art at the time of invention to place microphones near aircraft components to monitor their performance. Since aircraft have a plurality of components that needed to be monitored during flight, one of ordinary skill would have been motivated to provide microphones at all the locations of aircraft components. The signals from the microphone would have to be mixed in order for the pilot to hear them all. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a plurality of microphones and a mixer in the invention disclosed by Tanis in order to supervise all

the operations of the aircraft. The advantage was to achieve a comprehensive indication of the aircraft. Per claim 5, there is disclosed a headset. As to claim 4, substituting an ambient speaker for a headset was well known. Regarding claim 7, automatic and manual mixers were well known at the time of invention. Since the amplitude of the sound sources from the aircraft components would have varied, it would have been obvious to one of ordinary skill to use a mixer where the level, pan and equalization could be controlled. The benefit of that feature would be to ensure that all aircraft components are heard. As to claim 8, the microphone is on the flap of the aircraft. Per claim 9, the modulation of the input signal from the transducer 2 synthesizes a sound. Regarding claim 10, the aircraft control operation is the movement of the flap for landing.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanis in view of Andersson. Tanis does not disclose canceling noise from the audio inputs. However, the transducer 2 of Tanis is positioned to minimize noise, thus it was suggested that noise presents a problem for the monitoring of the wing operation or generally for an aircraft component. One of ordinary skill in the art would have been motivated to further cancel the noise to ensure a clean performance signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to cancel the noise from the audio input using well known signal processing methods, as evidenced by Andersson. Andersson is directed to canceling noise from an engine duct, which is also an aircraft component.

Allowable Subject Matter

Claims 2, 3, and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-34 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Dependent claim 2 and independent claims 12 and 24 have the limitation that the mixing of the audio inputs is based on a psycho-acoustic model and the inputs themselves. There is no teaching nor suggestion in the prior art of record for that feature. Because of their dependency on claim 2, claims 3 and 6 are also objected to.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Testi, US Patent 6,273,371; Qian et al, US Patent 6,453,273.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600